## DRAWING AMENDMENTS

**In the Drawing:**

The drawings were objected to for failing to show every feature of the invention as specified in the claims. Please replace Drawing Sheets 1-2, Figures 1-4 with replacement Drawing Sheets 1-2, Figures 1-4. Applicants also submit annotated red-lined drawing pages reflecting the changes. Applicants will provide formal corrected drawings to be entered if the proposed changes are accepted by the Examiner.

## REMARKS

This Application has been carefully reviewed in light of the Office Action mailed June 5, 2006. At the time of the Office Action, Claims 1-32 were pending in this Application. Claims 1, 2, 17-21, 26, and 29-32 were rejected. Claims 3-16, 22-25, 27, and 28 have been withdrawn due to an election/restriction requirement.

**Objections to the Specification**

The Examiner has stated that the term "load step" is ambiguous and arbitrary. Applicants disagree.

The term "load step" is common terminology in the field of compressors. A compressor's "load" has an obvious definition. Further defining the load in terms of "steps" simply means that the load changes in increments. In other words, load changes are "discrete" not continuous. As explained in paragraph [0024], load may be changed with discrete unloaders (in load steps) or with stepless unloaders.

The Redfield reference cited by the Examiner, U.S. Patent No. 1,616,991, uses the same terminology. On page 1, lines 8-10, the patent states, "The objects of the invention are to enable a compressor to be unloaded or loaded in successive steps". This is a 1927 patent squarely directed to compressors.

The term "load step" has a clear, obvious, and long standing meaning in the field of compressors.

The Examiner further indicates that the term "load pockets" needs clarification. "Load pockets", as used in the art and in the description of the present invention, are the chambers used to load and unload the compressor cylinder. In paragraph [0024], the load pockets are defined as "discrete unloaders", which again, is consistent with the Redfield reference cited by the Examiner.

Paragraph [0025] has been amended to use numeral 12a to define the cylinder.

The Examiner further states that it is not clear how load pockets change the compression ratio. Again, the relationship between unloader chambers (load pockets) and compression ratio is well know in the art of compressors. The following is taken from the background of U.S. Patent No. 4,384,826:

> The output pressure from the cylinder chamber 11 is a function of the compression ratio. The compression ratio may be defined as the ratio of the volume of compressible gas at the end of the suction stroke (when the piston 53 is farthest removed from the cylinder head 50), to the volume of compressible gas at the end of the compression stroke (when the piston 53 is closest to the cylinder head 50). The volume of compressible gas includes the gas in the cylinder chamber 11 and any gas that is in communication with the cylinder chamber. If additional volumes of gas are placed into communication with a given cylinder chamber 11, the effective volume of compressible gas will be enlarged.
>
> For a given size cylinder 12 and piston 53, both the compression ratio and the driver load are high if the volume of the cylinder chamber 11 when the piston 53 is closest to the cylinder head 50 at the end of the compression stroke is very small. If the effective volume of the cylinder chamber 11 is enlarged, the compression ratio is reduced, the actual compression effected on each compression stroke is reduced, and the driver load on the compressor 10 is reduced.
>
> One way of enlarging the effective volume of the cylinder chamber 11 is to provide an unloader chamber 13, which may be selectively placed into communication with the cylinder chamber 11 by means of an unloader valve 55. When the unloader valve 55 is open, the effective volume of the cylinder chamber 11 is enlarged, and the compression ratio and the driver load of the compressor 10 are both reduced. When the unloader valve 55 is closed, the effective volume of the cylinder chamber 11 is smaller and the compressor load is at its maximum.

**Rejections under 35 U.S.C. § 112**

Claims 1, 21, 31, and 32 were rejected by the Examiner under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Applicants have amended Figure 3 to overcome these rejections.

Claims 1, 21, 31, and 32 were rejected by the Examiner under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. Applicants have amended the claims to overcome these rejections. Specifically, it should be understood that the load pockets of Figure 3 are just one example of how load values can vary on a per cylinder basis.

**Rejections under 35 U.S.C. §103**

Claims 1, 2, 19, 21, 26, and 29-32 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,496,286 issued to James J. Gagnon ("Gagnon") in view of U.S. Patent 1,616,988 issued to Snowden B. Redfield ("Redfield"). Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

Gagnon does not teach or suggest that the controller receives values representing the compressor load on a per cylinder basis. Gagnon discusses only measuring engine torque as being representative of engine load.

As described in paragraph [0034] of the present invention, variation among cylinders in their loads causes poor engine performance. Hence, a novel feature of the invention, recited in Claims 1, 31, and 32 (the independent claims) is that engine control is achieved by receiving load values on a per cylinder basis.

Nor does Redfield compensate for the lack of teaching in Gagnon. Redfield teaches the use of unloaders, and does not teach measuring or using cylinder loads for engine control.

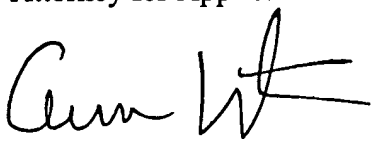
## CONCLUSION

Applicants have now made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of all pending claims as amended.

Applicants enclose a Petition for One Month Extension of Time and a check in the amount of $60.00 for the extension fee. Applicants believe no further fees are due, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2634.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorney for Applicant



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Date: September 13, 2006

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FIG. 3

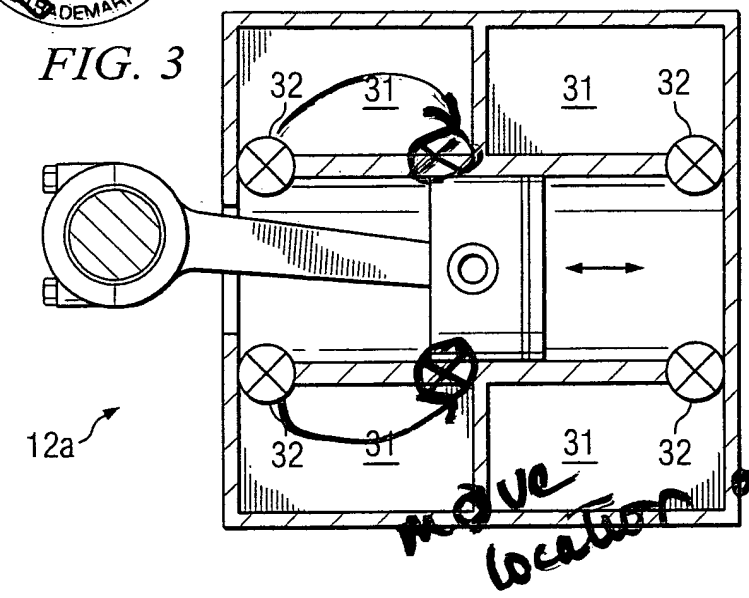




FIG. 4